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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/218,816	12/22/98	JOHNSON	B 1004.1118101

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MM92/1023

EXAMINER
GUHARAY, K

ART UNIT	PAPER NUMBER
2879	2

DATE MAILED: 10/23/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

MM92/1023

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APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP-ART UNIT	DATE MAILED
09/218.816	12/22/99	032	GUHARAY, K	10/23/01
First Named Applicant	JOHNSON, 35 USC 154(b) term ext. = 10 days.			

TITLE OF INVENTION EFFICIENT SOLID-STATE LIGHT EMITTING DEVICE WITH EXCITED PHOSPHORS FOR PRODUCING A VISIBLE LIGHT OUTPUT

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2	1004.1118101	313-506.000	N91 UTILITY	NO	\$1280.00	01/23/02

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PATENT AND TRADEMARK OFFICE COPY

Notice of Allowability

Application No.

09/218,816

Examiner

Karabi Guharay

Applicant(s)

JOHNSON ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment B, filed on 8/8/01.
2. ☒ The allowed claim(s) is/are 2-22 and 33-43.
3. ☒ The drawings filed on 22 December 1998 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

Amendment B, filed on 8/8/01 has been entered.

Arguments presented in Amendment B, regarding rejection of claims 2-3 under 35 U.S.C. 112, second paragraph, are persuasive and overcome the rejection of claims 2-3 under 35 U.S.C. 112, second paragraph.

Amendment of claim 42, overcomes the rejection of claims 42-43 under 35 U.S.C. 112, second paragraph.

In the claims:

Claims 1, and 23-32 are cancelled.

Allowable Subject Matter

Claims 2-22, and 33-43 are allowed over the prior art of record.

Examiner's Reasons for Allowance

The following is an examiner's statement of reason for allowance:

Regarding claims 2 and 33, the prior art of record neither shows nor suggests a light-emitting device comprising all the claimed limitations of claims 2 and 33.

Vriens et al. (US 5813753), as well as Singer et al. (US 5813752) discloses a UV/blue LED having phosphor layer, wherein the LED provides UV radiation to excite phosphor layer and produce visible light, and also reflector means but fails to disclose a reflector means comprising a first contact layer which is partially conductive and partially reflective, positioned over at least part of the phosphor layer.

Claim 3 is allowed being dependent on claim 2.

Regarding claims 4 and 21, the prior art of record neither shows nor suggests a visible light emitting device comprising all the claimed limitations of claim 4, particularly

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the limitation of having a radiation source positioned between the transparent substrate and the phosphor layer together with a first contact layer provided at least over the phosphor layer, which reflects at least some of the radiations that travels through the phosphor layer back into the phosphor layer as claimed in claim 4, as well as reflecting some visible light emission from the phosphor layer back toward the transparent layer as claimed in claim 21.

Claims 5-20 are allowed being dependent on claim 4.

Claim 22 is allowed being dependent on claim 21.

Regarding claim 36 and 37, prior art of record neither shows nor suggests a light-emitting device comprising all the claimed limitations of claims 36 and 37.

Singer et al. discloses a radiation source having first (18 of Fig 1) and second contact region (24 of Fig 1), a phosphor layer and a first contact layer (mirror 15 of Fig 1) which contacts the first contact region of the radiation source, and reflects UV radiation, but fails to disclose phosphor layers adjacent to one or more side walls of the radiation source as claimed in claim 36 and 37 and also fails to disclose that the first contact layer (mirror 15) reflects visible light as claimed in claim 37.

However, regarding claims 36 and 37, Virens et al. disclose phosphor layers adjacent to one or more side walls of the radiation source, but fails to disclose a contact layer for providing an electrical connection to the first contact region of the radiation source, which that can reflect UV radiation as well as visible radiation emitted from phosphor layer.

Regarding claim 40, prior art of record neither shows nor suggests an array of visible light emitting device, comprising all the claimed limitations of claim 40, particularly the limitation of a number of column contact layers, each of the column contact layers being provided over at least part of the phosphor segments the column contact layers reflecting at least some of the radiations emanating from the phosphor segment back into the phosphor segments, the column contact layers being electrically connected to the first contact regions of the radiation source.

Claims 41-43 are allowed being dependent on allowed base claim 40.

The subject visible light-emitting device provides more efficient light emission by reflecting UV radiations and visible radiations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K. G

Karabi Guharay
Patent Examiner
Art Unit 2879



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